REMARKS

Reconsideration of this application as amended is respectfully requested.

Claims 1-21 stand rejected.

Claim 9 has been objected to because of a typographical error.

Claim 16 stands rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,400,329, of Tokura et al. ("Tokura"). The Examiner has stated that Tokura teaches the invention as described in col 4 lines 10+, lines 24+, and also col. 5 lines 16+ and col. 9 lines 13+ (the decrease denoted by a factor of 1/k), wherein at the point of congestion, the bandwidth is estimated as being the transmission rate value.

Claim 16 stands rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application No. 2002/0044528 of Pogrebinsky et al. ("Pogrebinsky"). The Examiner has stated that Pogrebinsky teaches increasing the bit rate up until the point of congestion, wherein the transmission rate at this point is the bandwidth.

Claims 1, 2, and 4-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tokura and alleged knowledge in the art. The Examiner has stated that with regard to claim 1, Tokura teaches increasing the data rate until congestion is reached, and then the successive transmission rates are sent at a deviation between the previous (i.e., non-congested) rate. The Examiner has stated that although the throughput is not mentioned in Tokura, since the throughput is the same as the transmission rate up until the point of congestion (see page 20, par 56 of applicants specification), it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a deviation from the previous transmission rate (specified in terms of 1/k) alone, without reference to the said throughput, when determining the available bandwidth.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tokura and U.S. Patent No. 6,614,763 to Kikuchi et al. ("Kikuchi"). The Examiner has stated that it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided Tokura with the bottleneck bandwidth in light of the teachings of

Kikuchi in order to provide a means for estimating a more accurate measure of the optimum non-congested bandwidth.

Claims 16-19 have been canceled. Claims 1, 9, and 20 have been amended. It is respectfully submitted that the amendments are supported by the specification and do not add new matter.

Applicants reserve all rights with respect to the applicability of the Doctrine of Equivalents.

Claim 9 has been amended to correct a typographical error. It is therefore respectfully submitted that the objection to claim 9 has been overcome.

Claim 16 has been canceled, rendering moot the rejection based on 35 U.S.C. § 102(b) in view of Takura or Pogrebinsky and on 35 U.S.C. § 103(a) in view of Takura and alleged knowledge in the art.

Applicants respectfully submit that amended claim 1 is not unpatentable under 35 U.S.C. § 103(a) in view of Takura and alleged knowledge in the art.

Takura discloses the following:

> To transmit packets from a source node of a packet network according to this invention, a maximum permissible packet transfer rate and a minimum packet transfer rate (≥ 0) are set. In addition, an upper limit is established for the bit rate increase (i.e., the acceleration) or for the bit rate increase ratio (i.e., the acceleration ratio). The upper limit is set at a value indicating the degree to which the packet transfer rate can be increased up to the maximum packet transfer rate. Each source node is able to increase the packet transfer rate within the limits of this acceleration or acceleration ratio and the maximum permissible packet transfer rate.
>
> As to the detection of future occurrences of congestion, let the upper limit of, for example, acceleration, be ∂, and the current packet transfer rate be V. The packet transfer rate after time t can then be obtained by means of the formula $V(t)=V+.\partial \cdot t$. This predicted packet transfer rate enables a decision to be made as to whether or not congestion

> is anticipated. When congestion is anticipated, an intermediate node or a destination node transmits a congestion prediction signal to the source node.
>
> When the source node receives a congestion prediction signal from the intermediate nodes or destination nodes of the packet network, the source node decreases the packet transfer rate. Moreover, the source node can be notified that congestion is anticipated and can thereby decrease its packet transfer rate, by deleting a bit rate increase request signal indicator.
>
> Packet transfer control therefore involves controlling, at the source nodes, the packet transfer rate of packets forwarded to the transmission lines. Control is performed using either the arrival of the aforementioned congestion prediction signal or the non-arrival of a bit rate increase request signal. This packet transfer control provides a packet transmission interval table constructed in such manner that the packet transmission interval decreases exponentially with respect to increasing addresses of the table. The table enables the packet transfer rate to be increased exponentially by incrementing the address of the table. When the highest bit rate has been reached, table access is controlled so as to maintain this bit rate. On the other hand, when a congestion prediction is received, the control decreases the packet transfer rate at the source node. This is achieved by returning to a particular address or decreasing the address value by a fixed ratio or a fixed number to obtain longer transmission intervals from the table. Then increasing the table address resumes as before.

(Takura Col. 5, line 25 to Col. 6, line 5). (emphasis added).

Takura thus teaches away from amended claim 1 given that Takura relies on control of the source node either through a congestion prediction signal or a non-arrival of a bit rate increase request signal. (Takura Col. 5, lines 56-59).

In contrast to Takura, amended claim 1 states that the varying transmission rates are increased for successor transmissions of probe packages until a probe package transmission rate (t_s) exceeds a corresponding achieved probe package throughput (t_e) over the communication path, wherein once t_s exceeds t_e, the varying transmission rates

are increased over a last transmission rate (t_r) for which the probe package transmission rate did not exceed a corresponding achieved probe package throughput over the communication path by a fraction of a transmission rate range defined by a difference between t_s and t_r until t_s no longer exceeds t_r.

Moreover, the alleged knowledge in the art does not make up for the deficiencies of Takura. Thus a combination of Takura and the alleged knowledge in the art does render amended claim 1 unpatentable under 35 U.S.C. § 103(a).

Given that claims 2-15 and 20-21 are dependent claims with respect to amended claim 1, either directly or indirectly, and add limitations, applicants submit that claims 2-15 and 20-21 are not unpatentable under 35 U.S.C. § 103(a) over Takura and alleged knowledge in the art.

Applicants also respectfully submit that claim 3 is not unpatenable under 35 U.S.C. § 103(a) in view of Takura and Kikuchi. It is respectfully submitted that Takura does not teach or suggest a combination with Kikuchi and that Kikuchi does not teach or suggest a combination with Takura. It would be impermissible hindsight, based on applicants' own disclosure to combine Takura and Kikuchi.

Furthermore, even if Takursa and Kikuchi were combined, the combination would lack the following limitations of amended independent claim 1, which is the parent claim of dependent claim 3:

> wherein the varying transmission rates are increased for successive transmission of probe packages until a probe package transmission rate (t_s) exceeds a corresponding achieved probe package throughput (t_e) over the communication path, wherein once t_s exceeds t_e, the varying transmission rates are increased over a last transmission rate (t_r) for which the probe package transmission rate did not exceed a corresponding achieved probe package throughput over the communication path by a fraction of a transmission rate range defined by a difference between t_s and t_r until t_s no longer exceeds t_r.

(Amended claim 1)

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome.

If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Lester J. Vincent
Reg. No. 31,460

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025
(408) 720-8300